Project Fact Sheet

CEC / SMUD Regen Project 3.7 PV and Evaporative Cooling

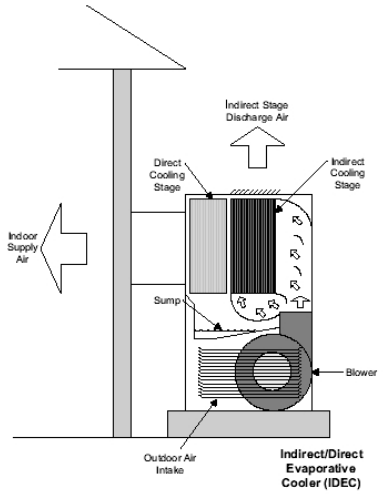
GOALS

- Lay the groundwork for creating a new market for PV and begin to address air conditioning as a peak-load driver.
- Build a DC-operated indirect/direct evaporative cooling unit
- Complete a demonstration project with 115VAC PV and a 115VAC evaporative cooling unit
- Complete a demonstration project with 115VAC/48VDC PV and a 48VDC evaporative cooling unit
- Monitor and evaluate the demonstration projects

PROJECT DESCRIPTION

PV will be tested for use with locally manufactured two-stage evaporative cooling units in residential demonstration projects. Two types of demonstration projects will be implemented: (1) PV delivering 115VAC power to a home with a two-stage unit; and (2) PV delivering 48VDC directly to a unit modified to accept DC power and 115VAC to the home or grid when there is no demand for cooling. The installations will be monitored and the results presented in a final report.

BENEFITS TO CALIFORNIA



PV and two-stage evaporative cooling will be tested in two or more residential demonstration projects. The two-stage units are being manufactured in the Sacramento area. One unit will be installed as manufactured on a home in the SMUD service area. Participant-owned PV will also be installed. The performance of the PV and evaporative cooling system will be monitored. In a second demonstration project, the manufacturer will convert a unit to DC operation by installing a DC motor and DC controls. The manufacturer has performed preliminary analysis and believes that this will reduce energy consumption by 25% and allow the unit to operate directly off of a PV system. Interestingly, as voltage increases, the unit's cooling

capacity is expected to increase. When the PV system is not providing power to the evaporative cooling unit, its output will be converted to 115VAC and fed to the house or the grid. Additional two-stage evaporative-cooling demonstration projects will be completed by SMUD to field test the units but these projects may or may not have PV, depending on the preferences of the participants. The two PV / evap demonstration projects will be monitored and evaluated and the results will be presented in a final report.

FUNDING AMOUNT

Commission	$ 50,000
Match	$ 30,000
Total	$ 80,000

PROJECT STATUS

The bidding process to identify a technical contractor is currently underway.

FOR MORE INFORMATION

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